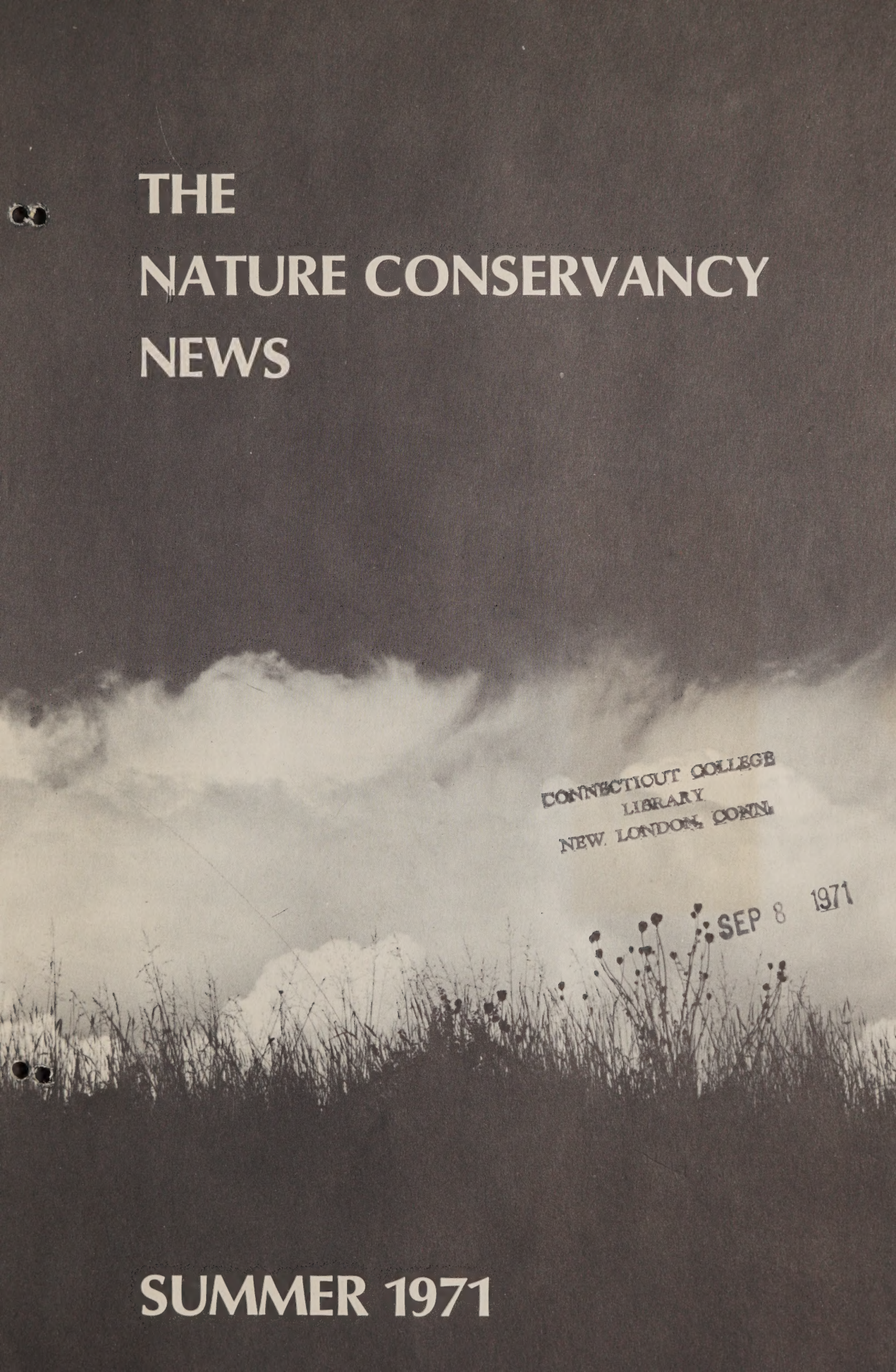
THE NATURE CONSERVANCY NEWS



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SUMMER 1971

NEW LIFE MEMBERS

An individual becomes a Life Member of The Nature Conservancy upon the contribution of $300 or more for membership dues. This contribution is used in the following ways: (1) $300 is added to the Guarantee and Income Fund, which serves a two-fold purpose: The securities in which the fund is invested may be used as collateral for loans to aid land preservation projects which the Board of Governors recommends for interim financing. At the same time, the income from the investments supports the national as well as the chapter operations of the Conservancy. (2) The amount of a contribution above $300 is added to the General Fund of The Nature Conservancy.

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$1,000 Patron
$500 Sponsor
$300 Life

$100 Guarantor
$50 Supporting
$25 Contributing

$10 Sustaining
$5 Annual
$2 Junior (18 & under)

Members receive the *News*

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The Nature Conservancy

THE NATURE CONSERVANCY NEWS

Published by The Nature Conservancy
1800 North Kent Street
Arlington, Virginia 22209

Volume 21, Number 3 **Summer 1971**

New Projects 4
A review of projects begun in recent months

The Imperiled Prairie 6
The vanishing American grassland

ANNUAL MEETING AND CONFERENCE SPECIAL CENTER SECTION
October 15-16, 1971, Savannah, Georgia
Details and Registration Forms

Chiwaukee Prairie 10
Wisconsin Chapter efforts to save a prairie from destruction

Prairie Management 12
The care and treatment of a dynamic ecosystem

Notes 14

Cover Photo: Grassland silhouette against cloud-splashed sky. The central grasslands, the prairies, are featured in this issue.
(Photo by Lawrence Hudetz)

Inside Cover Photo: A sea of goldenrods at Sand Prairie, Kansas.

The Nature Conservancy is a member-governed organization, incorporated in 1951 in the District of Columbia for non-profit educational and scientific purposes.

The Nature Conservancy's first land-saving effort was in 1954. This very successful endeavor turned out to be the forerunner of 625 projects totalling over 229,000 acres in which the Conservancy has since been involved.

The Nature Conservancy works closely not only with numerous educational, scientific, and conservation organizations but also with municipal, state, and federal governments.

The Nature Conservancy is the organization rallying the skills, the techniques, and the funds actually necessary to save land. Its total resources are massed for this one objective.

U. S. FOREST SERVICE

Connecticut

GRASSY ISLAND (Town of Westport). The Nature Conservancy assisted the City of Norwalk in purchasing 3 acres of woodland, marsh, and tidal flats in Long Island Sound.

Illinois

LACEY SANCTUARY, Prairie Grouse Preserve —Loy Addition—(Marion County). The purchase adds 40 acres to the existing sanctuary of booming, nesting, and brood-rearing cover for the prairie chicken. The preserve is part of the Prairie Grouse Preserve system in Jasper and Marion Counties, which now contains 850 acres of habitat.*

Maine

FALMOUTH FORESIDE PRESERVE (Cumberland County). A purchase of 34 acres of woodland, bounded on the north by Mill Creek, has been transferred to the Town of Falmouth.

Maryland

CLAGETT ISLAND (Montgomery County). Donated by Mr. and Mrs. G. C. Davis, the 30-acre wooded island in the Potomac River, upstream from Washington, D.C., is habitat for ducks, geese, and small mammals.

FINZEL SWAMP—Crowe and Arnold Additions—(Allegany and Garrett Counties). With the addition of 46-acre and 9-acre purchases, this spring-fed wetland preserve now totals 243 acres. The swamp is one of the southernmost stations for tamarack. Hemlock, oak, maple, birch, witch hazel, hickory, and sassafras are also present along with highbush blueberry and rhododendron as dominant shrubs.

Missouri

ST. LOUIS ARBORETUM (Franklin County). The Conservancy assisted the Missouri Botanical Gardens in the acquisition of 198 acres partially in the Meramec River floodplain. Flora ranges from cottonwood and willow along the river to an upland oak-hickory climax forest. Ordovician rock ledges (dating 440 to 500 million years ago) are visible from the tract. Fauna include pileated woodpecker, white-tailed deer, and raccoon.

New York

BARBERVILLE FALLS—Hayner Addition—(Rensselaer County). Containing steep wooded slopes of hemlock and mixed hardwoods, 5¼ acres expand the existing 201-acre preserve. The area features a 110-foot waterfall on Poestenkill Creek.

**Fund raising in progress.*

KENROSE PRESERVE (Albany County). Located on the Hamilton Escarpment, 300 acres contain two seasonal streams, fields, and forest of hemlock, sugar maple, red oak, white oak, and beech. The area is a gift of Mrs. David P. Ayars III, Mr. George Hoar, Miss Dorothy McAlpin, and Mrs. Margaret McAlpin.

MADDEN FARM (Putnam County). Donated by Mr. and Mrs. John C. Madden, 90 acres include open fields, a marsh, several springs and streams, woodlands of oak, sugar maple, beech, ash, and dogwood, and large rock outcroppings. The preserve has been transferred to the Board of Cooperative Educational Services of Putnam and Westchester Counties.

UPLANDS FARM—McAdoo Addition—(Suffolk County). A 7-acre purchase, the tract enlarges the existing 36-acre preserve of mixed hardwoods and open meadows overlooking Cold Spring Harbor, Long Island.*

North Carolina

COMAN PROPERTY (Orange County). 267 purchased acres south of the Eno River contain grassland, ponds, and hardwood and pine forest.

Ohio

BUZZARDROOST ROCK—Bentley Addition—(Adams County). A purchase of 49 acres of mixed mesophytic forest enlarges Buzzardroost Rock to 221 acres. The preserve includes a high promontory of Silurian dolomite which rises 500 feet above Ohio Brush Creek. This addition and the Red Rock addition noted below nearly connect the two preserves.*

F. SMITH JR.

RED ROCK (THE EARL F. FARNAU PRESERVE)—Bentley Addition—(Adams County). A 45-acre purchase of mixed mesophytic forest expands Red Rock to 63 acres. Its coral-colored cliff of Peebles dolomite overlooks Ohio Brush Creek. Buzzardroost Rock and Red Rock are nearly joined by their respective new additions.*

THE WILDERNESS (CHARLES A. EULETT PRESERVE)—Addition—(Adams County). The preserve is now brought to 286 acres with the donation of 23 acres of mixed mesophytic forest with scattered openings of dry prairie.

Virginia

DAVIS TRACT (Fairfax County). The 49-acre purchase of woodland includes ⅓ mile of Potomac River shoreline above Washington, D.C., and habitat for ducks, geese, deer, and small mammals.

Washington

WALDRON ISLAND—Addition—(San Juan County). With the purchase of an additional 18 acres, the Waldron Island preserve of white sand beaches, marshes, lakes, and evergreen and hardwood forests now totals 68 acres. Located in the San Juan Islands of Puget Sound, the island attracts seals, otters, bald eagles, and numerous shore and sea birds.*

**Fund raising in progress.*

Blue grama grass U. S. FOREST SERVICE

THE IMPERILED PRAIRIE

VANISHING AMERICAN GRASSLAND

by DeVere Burt

These are the gardens of the desert, these
The unshorn fields, boundless and beautiful,
For which the speech of England has no name—
The Prairies.

—WILLIAM CULLEN BRYANT

Prairie can be a state of mind, a consciousness that mirrors a spectrum of human emotion. It can be ominous and brooding under black skies that spawn tornadoes, yet shortly thereafter comforting in the brightness and tranquility of green hills and cloud-splashed skies.

A glimpse of unbroken prairie also brings to mind visions of bygone days: Of enormous buffalo herds with prairie wolves ever following in their path. Of bobolink song trickling down from the high air over arabesques of flower-laced meadows. Of prairie chicken booming grounds, filled with dancing and strutting birds oblivious to all else but the season that has captured them. Of redwing blackbirds clinging to swaying cattail fronds.

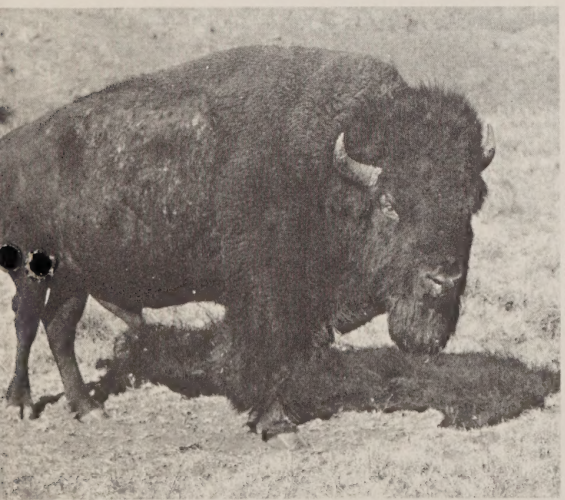
Of the summer pothole country, "duck factory of North America," swollen with life and reflecting eternity in its waters. And, finally, of Conestoga wagons, in orderly lines, crossing mighty rivers that dissect the heartland of a continent.

Tall grass prairie, short grass prairie, bunch grass prairie, wet prairie, xeric prairie, and mesic prairie—all have one thing in common aside from being taxonomic categories of grassland communities—they are rapidly vanishing American landscapes. It is no secret that the fabled sea of grass is essentially gone. Nor is it comforting to know that it was annihilated in less than 100 years.

The vast prairie ecosystem, with its myriad interdependent plant and animal communities, once covered one-third of the continental United States. Hundreds of thousands of acres of grassland habitat were the *raison d'être* for herbivores as ancient as the brontothere, mastadon, and mammoth and as recent as the bison, elk, and antelope. The grasses provided herbage for grazing, and the grazing in turn, along with dry climate and periodic fire, helped maintain the character of the grassland by preventing the growth of forests.

The fateful turn in the ancient odyssey of the prairie was the coming of civilized man. He brought with him his plow, his gun, his roads and railroads, and his farm machines. The face of the prairie began to change as the trickle of pioneers from the eastern states became a flood of settlers and speculators.

Populations of native animals were forced either to search for new habitat or to adapt to human activities. Effects included the hybridization of several closely related woodland bird species usually separated by the expanse of grasses onto the eastern and western areas of the continent. Trees



U. S. FOREST SERVICE

The bison, once in danger of extinction, has been restored to viable population size.

U. S. FOREST SERVICE

The red fox inhabits the eastern and western prairie areas. Here, a pup peers from behind a rock.

planted by farmers for shade, fuel, lumber, and windbreaks provided inviting new habitat to birds living along the prairie-forest interface. They used these increasingly numerous islands of trees as stepping stones across the country; a mixing of genetic stock resulted.

The influx of humanity also reduced the incidence of prairie fires. Spontaneous fire was a major factor in preventing the invasion of trees, which were normally confined to narrow riparian strips. Both the introduction of trees and the absence of fire deterrence contributed to the downward plunge of prairie acreage.

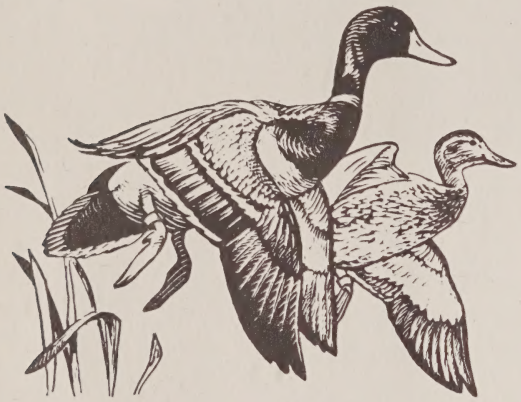
As more and more prairie sod was turned to cultivation with the aid of sophisticated machinery, and as settlements developed into cities with interconnecting transportation networks, the floral and faunal communities were subjected to swift and massive destruction.

The desecration of vital prairie wetlands is a glaring example. The system of marshes, ponds, and small lakes known as "prairie potholes", scattered throughout the Dakotas, western Minnesota, and central Canada, are biologically among the most productive of temperate ecosystems. Highly important to the life cycles of most prairie

wildlife, the potholes at one time produced more waterfowl than could be found anywhere else on earth. Currently over 50% of the ducks raised in North America are bred in the pothole country, an area constituting only 10% of the available duck-producing habitat. Unfortunately, the waterfowl population has rapidly declined from 36 million to 18 million between 1956 and 1966, due mainly to artificially-induced drought and drainage.

Periodic *natural* drought has always been a part of the prairie marsh cycle, along with flooding, and may in fact be the strongest single selective factor at work on populations of wetland inhabitants.

Muskrats, for example, compensate for drought-induced habitat loss by being prolific breeders



and highly mobile. When a drought emergency occurs on a marsh with a sizable population, fleeing muskrats are found wandering across open country, into farmyards, towns, and a curious assortment of places no self-respecting muskrat would dare go under ordinary circumstances. During this exodus, some muskrats will manage to find new marshes in which to settle and propagate. Seldom are natural prairie droughts on such a scale that there is complete elimination of a region's wetlands.

It is *artificially*-created drought that can be disastrous. Drag lines completely destroy the habitats of marsh wildlife; the loss is permanent. The water and cattails will not return with next spring's rain. Instead, the freed water will run off the land quickly and accumulate into a flood downstream. To compensate, more dams will be built, more river valleys inundated, and more streams channelized (with the ironic effect of rushing increasingly scarce water to the sea).

The current plight of America's interior wetlands reflects misplaced priorities and lack of cooperation among some government agencies. This situation reaches its epitome in certain federally-sponsored drainage programs. The end result

of these programs provides farmland for crops which farmers are paid not to produce!

Under the general leadership of this ideology, 50% of the 60,000 square miles of pristine interior wetlands once present in the United States had been drained by 1950. These figures only slightly overshadow the fact that over 50 million acres of fresh water wetlands have been destroyed in the last twenty years. These drained potholes and plowed uplands now grow cereal crops, not ducks.

In efforts to foil the drain-and-destroy programs, in late 1970 the Conservancy purchased a sizable chunk of prairie wetland in Grand Forks County, North Dakota. Located in the heart of the pothole country, the 1,440-acre Forest River Colony preserve contains eight marshes which attract mallards, pintails, coots, and migratory shorebirds. The land also provides habitat for the threatened prairie chicken. In July 1971 the tract was sold to the North Dakota State Game and Fish Department.

Another grim example of the decimation of

Big bluestem at Berkeley Prairie, Illinois

Please Support the General Fund

The General Fund

Acquisitions of national importance are made possible through the General Fund of The Nature Conservancy.

The General Fund provides monies necessary to insure the Conservancy's continued success in the battle to preserve large and small natural areas.

Only with your support can the Conservancy meet the increasingly complex and urgent needs of the coming years.

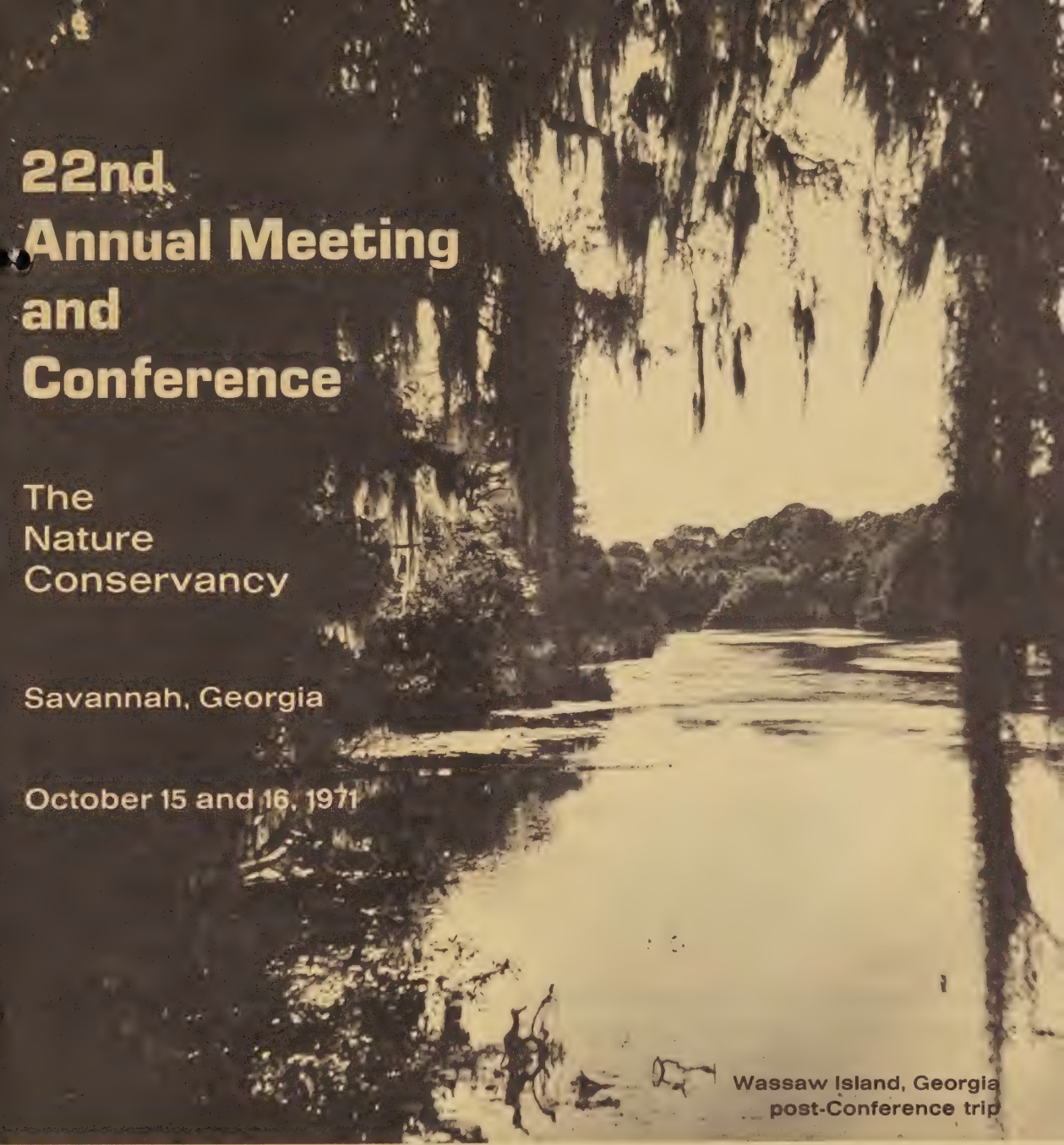
Please use the enclosed special envelope to forward your contribution to the General Fund. Your donation *can* make a difference in the future of our environment.

22nd Annual Meeting and Conference

The Nature Conservancy

Savannah, Georgia

October 15 and 16, 1971



Wassaw Island, Georgia
post-Conference trip

Savannah
GEORGIA'S COLONIAL CAPITAL

The City Quiet park-like squares and Spanish moss cloaked live oaks give Savannah a special charm reflected in the magnificently restored homes of this history-rich port city.

The Inn Located outside Savannah, on the banks of the Wilmington River, the Savannah Inn and Country Club provides an ideal conference setting—touching the wetlands, yet up-to-date in accommodations and conference facilities.

The Conference A close look at the salt marshes, wetlands, and islands of the coast, and an examination of their irreplaceable importance.

ADVANCE CONFERENCE REGISTRATION

The Nature Conservancy
22nd Annual Meeting and Conference
October 15-16, 1971

Mail to: The Nature Conservancy
1800 North Kent Street (#800)
Arlington, Virginia 22209

Enclosed is my check for $_____ as payment for Registration and Events circled below. (Unless you request otherwise, all tickets will be held in your name for you in Savannah.)

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

GUESTS AT INN*

Number Desired		*Before Oct. 1*	*After Oct. 1*
_____	COMPLETE Registration and all Ticket Events	$35.50	$45.50
_____	COMPLETE Registration and all Ticket Events for accompanying spouse.	$26.50	$25.50
	Separate Tickets:		
_____	Registration for Sessions only	$15.00	$20.00
_____	Friday Luncheon only	$ 2.50	$ 2.50
_____	Friday Reception only (cash bar)	no charge	no charge
_____	Friday Annual Dinner only	$ 5.50	$ 7.50
_____	Saturday Savannah Luncheon and Tour only	$ 8.00	$ 9.00
_____	Saturday Oyster Roast Dinner only	$ 4.50	$ 6.50

ATTENDEES NOT STAYING AT INN*

Number Desired		*Before Oct. 1*	*After Oct. 1*
_____	COMPLETE Registration and all Ticket Events	$44.50	$54.50
_____	COMPLETE Registration and all Ticket Events for accompanying spouse.	$29.50	$34.50
	Separate Tickets:		
_____	Registration for Sessions only	$15.00	$20.00
_____	Friday Luncheon only	$ 2.50	$ 2.50
_____	Friday Reception only (cash bar)	no charge	no charge
_____	Friday Annual Dinner only	$10.00	$12.00
_____	Saturday Savannah Luncheon and Tour only	$ 8.00	$ 9.00
_____	Saturday Oyster Roast Dinner only	$ 9.00	$11.00

WASSAW TRIP

Please hold _____ reservations for the Wassaw Island trip.

* Prices reflect Savannah Inn modified American plan.

OFFICIAL NOTICE

Notice is hereby given that the 22nd Annual Meeting of the members of The Nature Conservancy will be held on Saturday, October 16, at the Savannah Inn and Country Club, in Savannah, Georgia. The agenda will include reports, consideration of bylaw amendments, election of officers and any other business which may come before the meeting.

THE CITY

The colony of Georgia was founded as a bulwark against the Spanish in 1733 by a group of English trustees. One of these trustees, James Edward Oglethorpe, was entrusted with the establishment of the colony.

For Savannah, his colonial capital, he conceived a plan for a city unlike that of any other in the new world. He divided the town into small building lots forming convenient neighborhoods, each with a central park-like square. Beyond was a green belt and, beyond that, garden lots, with larger farms forming the outer perimeter. Savannah gradually developed between wars into a merchant town trading in rice, lumber, and, later, cotton. Until the middle of the 19th century, the original town pattern was followed as new neighborhoods were added, creating a stong pattern of streets and squares.

Today, old Savannah is a national historic district. Its valuable old buildings are being restored, thanks to the efforts of many citizens, and its squares are being renovated. After a century of abuse, the old planned town is regaining its former elegance and charm. New paint, fresh flowers, and enthusiasm now add bright luster to the city's rich patina.

Annual Meeting conferees will have an opportunity to lunch in Savannah and tour the historic district during the afternoon of October 16th.

THE INN

The Savannah Inn and Country Club is on the Wilmington River, about ten miles east of the City of Savannah. Conservancy members desiring to stay at the Inn should contact the Inn directly to secure reservations and for further information. The Inn operates on a modified American plan, offering breakfast and dinner ("dinner credit" for conference goers) as part of the overall rate for rooms. The hotel management recommends that you have your reservations made by September 26, to insure that space will be available.

THE CONFERENCE AND MEETING

Attendees will have more than just an opportunity to hear about the salt marshes of the coastal area; they will also have a chance to touch, smell, and see the marshes on Friday's walk. That evening, after a day of learning about the ecological importance of such wetland areas, members attending the Annual Dinner will hear of the salt marshes' economic importance from Dr. Joseph Fisher, president of Resources for the Future. Saturday, in addition to the final portion of the wetlands program and the Conservancy Annual Business Meeting, attendees will be able to lunch in Savannah and tour the old city before returning to the Inn and the good fellowship and informal discussion of an evening oyster roast on the banks of the Wilmington River. Early Sunday morning, boats will leave the Inn's private pier for a day trip to near-by Wassaw Island, preserved through Conservancy efforts in 1969.

WASSAW TRIP

Only 40 spaces are available for the day boat trip to Wassaw Island on October 17. Please make your reservations now, using the form on the second page of this special section.

For an advance look—

→ **at Savannah, see *Life*, May 7, 1971.**

→ **at Georgia's wetlands and islands, see *National Geographic*, March 1971.**

CLIP HERE

HOTEL RESERVATIONS

The Nature Conservancy

22nd Annual Meeting and Conference

October 15-16, 1971

Mail to: Savannah Inn and Country Club
612 Wilmington Island Road
Savannah, Georgia 31404

PLEASE MAKE RESERVATIONS
BY SEPTEMBER 26, 1971

NAME:_____

ADDRESS:_____

CITY:_____ STATE:_____ ZIP:_____

ARRIVING:_____ DEPARTING:_____

Please reserve:

_____ Single [$29 per day]
_____ Twins (2 persons/2 beds) [$42 per day]
_____ Double (2 persons/1 bed) [$37 per day]

Hotel check-in time: 2 p.m.
Hotel check-out time: Noon

(Schedule of rates is for modified American Plan and includes breakfast and dinner credit for Attendees.)

1971 ANNUAL MEETING PROGRAM

FRIDAY, OCTOBER 15

8:00 a.m. Registration opens
9:00 a.m. Welcome
9:15 a.m. "Georgia's Islands and Wetlands: History and People"
11:00 a.m. "National Review of Projects"
12:00 noon Luncheon
2:00 p.m. Briefing: Professor Eugene Odum
Marsh Walk
6:00 p.m. Annual Dinner
Presentation of Awards
Speaker: Dr. Joseph L. Fisher, President
Resources for the Future
Film: "The American Wilderness"

SATURDAY, OCTOBER 16

8:00 a.m. Registration opens
9:00 a.m. Panel: "The Future of Wetlands"
10:00 a.m. Annual Business Meeting
12:30 p.m. Luncheon and Tour of Old Savannah
6:30 p.m. Oyster Roast
8:30 p.m. Presentation: "Wassaw Study"

SUNDAY, OCTOBER 17

9:00 a.m. Departure, via boat, for day tour of Wassaw Island

BYLAW AMENDMENTS

The Board of Governors has by Resolution approved amendments to the Conservancy Bylaws dealing with additional appointed officers, a change in the fiscal year, and a new dues structure. The following amendments will be presented for consideration by the membership at the Annual Business Meeting October 16 and are recommended by the Board for approval:

Appointive Officers

ARTICLE VI—OFFICERS
Section 1. *Title and Terms of Officers.* The elective officers of the Conservancy shall be a Chairman of the Board, not more than three Vice-Chairmen, and a Secretary, who shall be elected for terms of one year. The appointive officers shall be a President, Treasurer, and Assistant Treasurer, and such number of Vice Presidents, Assistant Vice Presidents, and Assistant Secretaries as the Board of Governors may determine.
(No changes in the other sections.)

Fiscal Year

ARTICLE IX—FISCAL POLICIES
Section 1. *Fiscal Year.* The fiscal year for all business transactions of the Conservancy shall be from January 1 of one year through December 31 of that year.
(No changes in the other sections.)

Dues

ARTICLE III—MEMBERSHIP

A decade has passed since any change has been made in the dues structure of The Nature Conservancy. During the same period, costs, including postal rates, have risen greatly. The present dues structure is inadequate to offset these increases. Based on careful study, the Board of Governors recommends that the basic annual dues be increased from $5 to $10, and that "junior" dues be increased to $5.

Section 2b. *Annual.* Individuals eighteen years or more of age or organizations, contributing ten dollars or more per year for the general purposes of the Conservancy, in such classes as the Board of Governors may from time to time establish, who are elected by the Board.

Section 2f. *Junior.* Individuals less than eighteen years of age contributing five dollars per year for the general purposes of the Conservancy.
(No changes in the other sections.)

NOMINATIONS OF OFFICERS AND GOVERNORS

The Nominating Committee of the Board of Governors of The Nature Conservancy, as appointed according to the Bylaws, and under the chairmanship of Mr. Ernest Brooks, Jr., presents the following recommendations:

Nominations for Officers

Chairman of the Board: Mr. Warren M. Lemmon
Vice Chairmen: Mr. Wallace C. Dayton
Mr. William E. Howard
Dr. George R. Cooley
Secretary: Mr. Richard S. Weinstein

Nominations for Governors

Mr. Rudolph O. Marcoux	(Term expiring 1972)
Dr. Richard H. Goodwin	(Term expiring 1973)
Mr. John D. Archbold	(Term expiring 1974)
Mr. Brandon Barringer	(Term expiring 1974)
Mrs. Barry Bingham	(Term expiring 1974)
Capt. H. P. J. Duberg	(Term expiring 1974)
Mr. Charles Dow	(Term expiring 1974)
Mr. Cyrus Mark	(Term expiring 1974)
Mr. Thornton Thomas	(Term expiring 1974)

APPRECIATION TO RETIRING GOVERNORS

The Board of Governors extends its most grateful appreciation to these retiring members of the Board who have served the Conservancy so well.

Mr. E. W. Mudge, Jr.
Dr. M. Graham Netting
Mrs. L. M. C. Smith

What we have saved and what we will save in the next few years will be all that will remain to be passed on to future generations. There will never be another chance.

Enclosed is $_____ to be added to the General Fund of The Nature Conservancy. Please consider my contribution as evidence of my commitment to preserve the natural lands and to enhance the very quality of life. My donation will help make the national and local programs of the Conservancy realities.

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LAND CONSERVATION THROUGH PRIVATE ACTION

primitive prairie is the extirpation of the tall grasses. These magnificent grasses, including big bluestem, Indian grass, and switch grass, attain heights up to 8 feet. More than 250 million acres of tall grass prairie once stretched eastward into western Ohio in post-Pleistocene times (up to 10,000 years ago). Little remains of this extensive "prairie peninsula"—necessarily drier climatic conditions did not persist, and, more recently, the hand of man has rendered the scattered fragments unique. For the most part, tall grass patches lie forgotten and unprotected in old cemeteries and railroad rights-of-way.

Although there has been much interest in saving what remains, perhaps no other group has been more actively dedicated to the protection of tall grass than The Nature Conservancy. Recognizing the rarity of tall grass in the state and the need for now-or-never action, the Ohio Chapter made its first preservation project in 1958 a 53-acre tract of prairie-forest boundary containing climax tall grass and red cedar. This Adams County preserve, originally known as Lynx Prairie and later as the E. Lucy Braun Preserve, was deeded with reverter to the Cincinnati Museum of Natural History and was declared a Registered Natural Landmark in 1967.

The tall grass prairie disappeared west far beyond its original Ohio stand, but several spectacular and vital remnant communities preserved by the Conservancy will always remain.

In Minnesota, for example, the acquisitions of Shaefer Prairie, Helen Allison Savanna, Malmberg Prairie, Roscoe Prairie, and, most recently, Kasota Prairie and the Katharine Ordway Preserve attest to the successful efforts of the Minnesota Chapter in the past 10 years to save the state's last tall grass areas.

Other outstanding tall grass preserves include Tucker Prairie, Missouri, now serving as a biological field station for the University of Missouri after acquisition assistance by the Conservancy. Also, South Dakota's Altamont Prairie was the Conservancy's first project in the Great Plains states; it was subsequently conveyed to the South Dakota State College Foundation. Patches of tall grass of varying sizes may be found in several other Conservancy preserves.

The fate of the tall grass is but an episode in the present-day disaster of the prairie. The awesome ecosystem has lost some of its inhabitants forever. Others have narrowly escaped, but only after enlightened aid from private and public sources. Still others are endangered or are constantly harrassed by the pressures of expanding humanity.

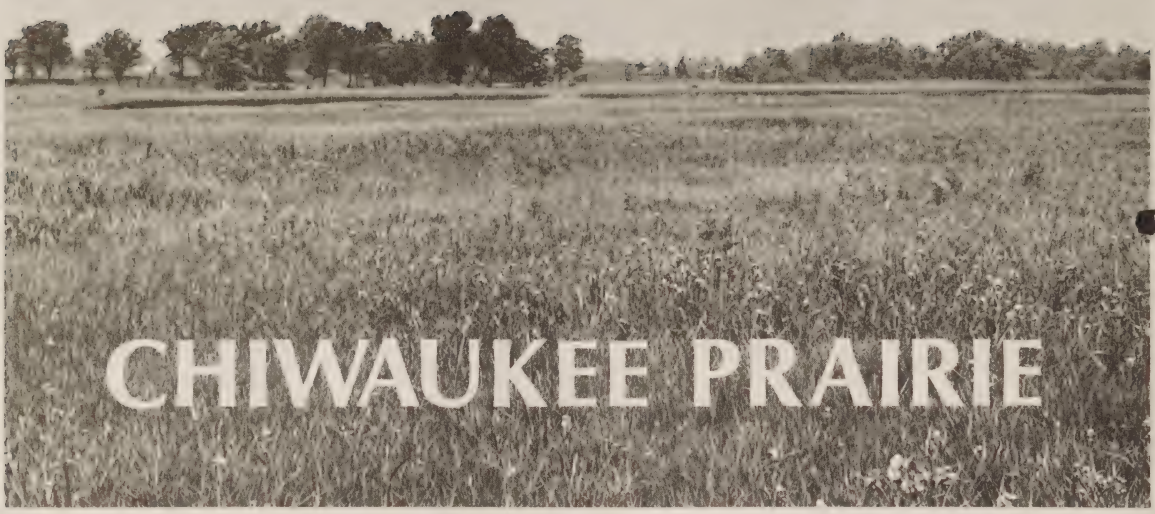
Because the American prairie has been sung by few others than isolated poets of yore, the scientific community, and conservationists, it is in danger of disappearing altogether without so much as a stir from an uneducated public. The prairie has not captured the general imagination as have more overtly spectacular natural areas. Without realizing its ecological, scientific, and educational value, countless engineers and planners are systematically sealing the fate of the remaining prairie with future highways, subdivisions, and reservoirs.

The urgent need to preserve the remnants cannot be overemphasized. Each acre lost brings the prairie closer to the tragedy of extinction.

The work of The Nature Conservancy demonstrates the kind of response that will be necessary to help avert that tragedy. Thus far, the Conservancy has participated in the preservation of three dozen prairie habitats, large and small, in 12 states; and the list is growing. Hopefully, such spirited foresight is catching.

D. BURT

Short-eared owl perches before stand of big bluestem.



CHIWAUKEE PRAIRIE

Under the chairmanship of Paul J. Olson, the Wisconsin Chapter has been active in efforts to save the remaining prairies. The story behind one of its prairie preserves, Chiwaukee Prairie in Kenosha County, is told here by **Dr. Ruth L. Hine.**

This is the story of a prairie and of people.

And of miracles. A few years ago it was a miracle that the prairie had survived at all, and it is a miracle of another kind that it still exists today.

The story is the same that Nature Conservancy members see written in states throughout the country. It is a story infused with the spirit of a dedicated handful of people who "made it happen."

Chiwaukee Prairie is the largest unbroken sweep of prairie in Wisconsin. Its 200 acres are tucked between a railroad track and Lake Michigan, between the Illinois border and sprawling, smoke-stacked Kenosha.

An unlikely place to find a primeval sanctuary for over 300 species of plants! Both wet and dry prairie plants co-exist in this remarkable area. The floral spectrum is continually transformed by the seasons: Spring brings a delicately-hued sweep of shooting stars, yellow puccoon, yellow-eyed and blue-eyed grass, yellow lousewort, and golden alexander, with splashes of red Indian painted cup and puffs of white cotton grass. A few weeks later spiderwort, black-eyed susans, and prairie phlox take over. In late summer, golden blossoms of Coreopsis and purple spears of prairie gayfeather light up the prairie, and white-fringed orchids show Nature's close-up artistry. Fall brings a grand finale of goldenrods and asters, tiny ladies' tresses orchids, and grasses of gold, brown, red, and purple. Migrations of monarch butterflies throw a dancing pattern of orange and black over the entire landscape.

Chiwaukee clearly bears the marks of its glacial origins. The high sandy ridge bordering on the west was once the shoreline of glacial Lake Chicago, the predecessor of Lake Michigan. As the lake receded over the centuries, old beaches left undulating ridges and swales. These are apparent today as one walks through the dry vegetation of the ridges and wades ankle-deep in water through strips of marsh.

Soon after the northern glacial ice retreated, Indians roamed the Lake Michigan shore. Flakes of chert and broken fire rocks on the surrounding higher ground mark old campsites. Arrows, spears, and large scrapers found on the prairie itself identify it as an ancient hunting ground.

The first explorers arriving by boat along Lake Michigan's shore must have marvelled at the sea of rippling grasses "knee-high to a man on horseback" as far as the eye could see. The prairie was a true wet prairie—unplanted, untended, diverse and abundant in its plant and animal life.

There were no roads, no trails, no drainage ditches, no houses. The wet depressions attracted migrating ducks and shorebirds, sandhill cranes, marsh wrens, and jacksnipes. Waves of migrating hawks rode the north wind over the sky in the fall.

The 1920s brought the first crisis. A model city plan promised homes for millionaires, a large hotel, a special depot, and a nine-hole golf course. Lots were platted and land sales boomed. The venture failed in the Depression, and Nature healed the prairie's wounds. The shooting stars and turkey foot, the upland plovers and marsh wrens remained heirs to the land.

The second crisis came in 1965 when promotion began for a large marina to be built on the southwest edge of the prairie. The proposed channel dredging and basin construction would have drastically affected the drainage and destroyed the

unique ecology of the area. At the County Board hearing on the rezoning of Chiwaukee Prairie to commercial land, the jam-packed courtroom heard the pros and cons. Ecologists and conservationists from the local area and from over 100 miles away had inched their way through a blinding snowstorm to plead for the prairie.

"You are rezoning land in Pleasant Prairie Township. Your children will ask, 'What is a pleasant prairie?', and you will have no answer, for you will have destroyed it," they said.

But there were those, too, who talked glowingly of how the new marina would expend millions of dollars, increase the tax base, and create a demand for more housing. The marina people won the day, and the future of the shooting stars and marsh wrens looked dark indeed.

In the corner of the courtroom after the hearing, a knot of people hastily gathered. Names were written down, telephone numbers listed, and a meeting place determined (somebody's laboratory); the Committee for Preservation of Chiwaukee Prairie was born.

They turned to the Wisconsin Chapter of The Nature Conservancy for help. The Committee proposed the acquisition of a mile-long strip of prairie, 100 feet wide, which broadened out to 300 feet at its midpoint, for $5,500. It was an odd shape, intended at one time to be a railroad right-of-way with a passenger station midway. Starting with this holding, the Committee hoped to make additions.

It was a deliberate gamble. Problems were enormous. If the Committee failed to raise the funds locally, the Wisconsin Chapter was out the money. The huge number of owners involved were literally scattered all over the world; the Wisconsin Department of Natural Resources had turned down an opportunity for acquisition of the prairie four years earlier for this very reason. The cost of land in a metropolitan area, especially along Lake Michigan, was very high. To make matters worse, no attempt had ever been made by a local group to solicit funds from the public in Kenosha and Racine to preserve a natural area. How would people respond? How could you convince them to donate money to save "a bunch of worthless weeds?"

Despite these headaches, the Committee plunged into action, led by Kenosha businessman Al Krampert. The 100-foot strip proved to be strategic, for it gave the Conservancy "a foot in the door." The initial purchase of 15 acres in June 1966 has now grown to 83 acres. Purchases to date have involved 62 separate parcels of land at a cost of over $50,000. With the exception of $18,500 furnished by the U.S. Department of Housing and Urban Development, all funds came from individual donations. Every penny has been used for land purchase.

M. HANSON

White-fringed orchids, above.
Flowering blue-eyed grass, below.

M. HANSON

The Chiwaukee story has become a game of patience, determination, negotiation, anticipation, and success, involving hundreds of people. But the final chapter has yet to be written. There remain about 250 parcels of land to be acquired, plus 43 acres held by the marina. With these, the entire 200 acres of Chiwaukee Prairie will stand again, as they were, safe from plow and plunder.

Prairie Management

The Care and Treatment of a Dynamic Ecosystem

by Robert E. Jenkins

Prairies once occupied an estimated billion acres, or nearly one-fifth of the North American continent. But no other natural community has been so altered by European settlement. Of the once vast expanse of central grasslands, only scattered remnants remain, and even these are being rapidly destroyed by intent or neglect.

For any number of reasons, it is important to preserve what remnants we can and to restore retired lands to their former condition where possible. The Nature Conservancy, some universities, and a few other groups have been seeking to set aside and preserve as much undamaged prairie as can be found; but simply acquiring such lands is not enough. To guarantee a secure future for the ecosystem and its biota, deliberate and, in some cases, intensive management and restoration are required.

Characteristics of prairie ecosystems are determined by a complex of variables. The prairies owe their existence principally to the high western ridges which, by precipitating the moisture from prevailing westerly winds, cause dry climates in their lee. Low rainfall hinders the growth of forests, and the grasses and forbs of typical prairie vegetation triumph by default. However, this general phenomenon is modified by other climatic variables, soil, topography, biotic influences, and certain forms of disturbances; changes in any of these may produce marked effects. Because of the rapid growth, pronounced annual cycles, and short generation times of dominant prairie life forms, the tempo of existence is very fast and such effects are discernible much sooner than they would be in forests or other communities.

For this reason, the remaining prairies challenge the contention that natural areas can be maintained by mere passive protection. Virtually anything which one chooses to do or *not* to do will have some effect, and the seriousness of these effects will be magnified by isolation and reduced acreage.

The small size of remaining parcels is significant because they will support correspondingly small populations of plants and animals which are that much more vulnerable. In any natural community there are a few dominant species which are very abundant and large numbers of species which are more or less rare. In one prairie in Wisconsin, with 240 plant species present, 12 species were represented by as many individual plants as all the other 228 species combined. The same relationship would be found for insects, microorganisms, or even birds and mammals. There may be a million times as many of the most abundant species as the rarest, and this means that small sites may have very few or no individuals of rarer

Management programs may include prescribed burning.

species, merely as a statistical accident. Small sites will also tend to have less variation in microclimatic or other factors which may reduce the niches for specialized species.

If not eliminated simply by chance, such rare species may easily fall prey to influences which they could successfully resist in larger stands. When such species have become locally extinct, distances from other populations may prove to be too great under present circumstances, thus preventing recolonization. Local extinctions may then lead to overall extinction as populations die out one by one. Other species may be affected and the entire community may become less stable as it loses its buffering diversity.

Thus, while it is relatively easy to maintain the *appearance* of prairie by simply promoting the success of the few dominant species, to effectively maintain the intact ecosystem down to the least of its denizens requires considerable effort. It is important to understand the parameters of the system, the effects of management efforts, and to anticipate as many problems as possible. To be successful, several important elements should be included in the management program. A master plan must be developed on the basis of a clear understanding of the natural system and the conditions contributing to its existence. This depends on comprehensive baselines developed from study of the best remaining prairies by competent professionals who should also contribute their expertise to the formulation of management techniques. Finally, the plan must be reliably implemented and revised as necessary.

Because of the many distinct kinds of prairies and local variation in these, it is difficult to generalize about management, reinforcing the need for expert assessment. One factor which must frequently be guarded against is a certain form of over-protection. Many prairies, especially tall grass prairies on the eastern plains and prairie peninsula, grow in areas where trees and woody vegetation can grow, and they have historically been maintained by recurrent fires. Exclusion of fires results in forest encroachment, and such prairies and similar savannas are consequently managed by periodic prescribed burning. Usually only a portion is burned in any given year, so that fire-intolerant native annuals or other species may persist as fugitives occupying different subareas at different times.

Some grasslands may be better protected against trees and shrubs by mowing or by selective cutting, as in the so-called hill prairies of the Midwest. East of the Rockies, burning may help to suppress unwanted plants which invade bunch grass prairies after overgrazing. In many sections of the short grass and mid-grass prairies, there is no serious

threat from woody plants, and fires may be excluded. In these areas and others, a regime of light grazing may be beneficial to simulate the conditions to which the prairies are adapted.

Prairie management is closely related to prairie restoration, which is even more complicated, demanding great effort and sometimes ingenuity to reintroduce flora and fauna which have been eradicated and to eliminate the tough and persistent weeds which have often replaced them. Clearing, ground preparation, obtaining stock, seeding or planting, and selectively favoring the preferred life forms all require considerable care, experimentation, and knowledge (much of which may be acquired along the way). Even after restoration is well along, or in maintaining natural prairie, some of these same techniques may still have value. Exchanging genetic material with other sites to counteract the effect of inbreeding, replacing species inadvertently lost, and resisting weedy invaders may all be continuing operations.

In spite of the difficulties, prairies can be maintained with well thought-out programs, and there are some wonderful examples of restored prairies. Some of the latter become more prairie-like every year as the artifacts of their synthesis disappear, or as more and more of the original components are successfully added. More such work needs to be done on larger and larger areas if we are to save many of the prairie types and species.

It would be wrong to infer that the prairie ecosystem is some sort of hothouse plant, unsuited to its environment and less vigorous than other systems. It is just that we have pushed the prairie to the wall, destroying it over almost its entire range, disrupting the chain of events which sustained it, and too often misunderstanding its needs even where we sought to preserve it. Given its natural environment and even a significant fraction of its former range, prairie is capable of becoming once again a tough and resilient system which could take on all comers. Acquisition of suitable lands, coupled with inspired restoration and management, can yet save the prairies for the time when we will need them again.

NOTES

A new, separate, complete directory of Nature Conservancy projects, listing all lands saved since 1953, will be available in early 1972. Watch for an announcement in the *News*.

The National Office is in need of a 16 mm sound projector and a new encyclopedia. Donation of these items would be greatly appreciated.

Project Revolving Fund Progress Report

The Project Revolving Fund now stands at $1,663,000. Each donation to the Fund is increased 20% by the Ford Foundation challenge grant (see Winter *News* 1971). We will report again on the progress of the Fund toward the $4,000,000 goal in the Fall *News*.

SAVING THE LAND

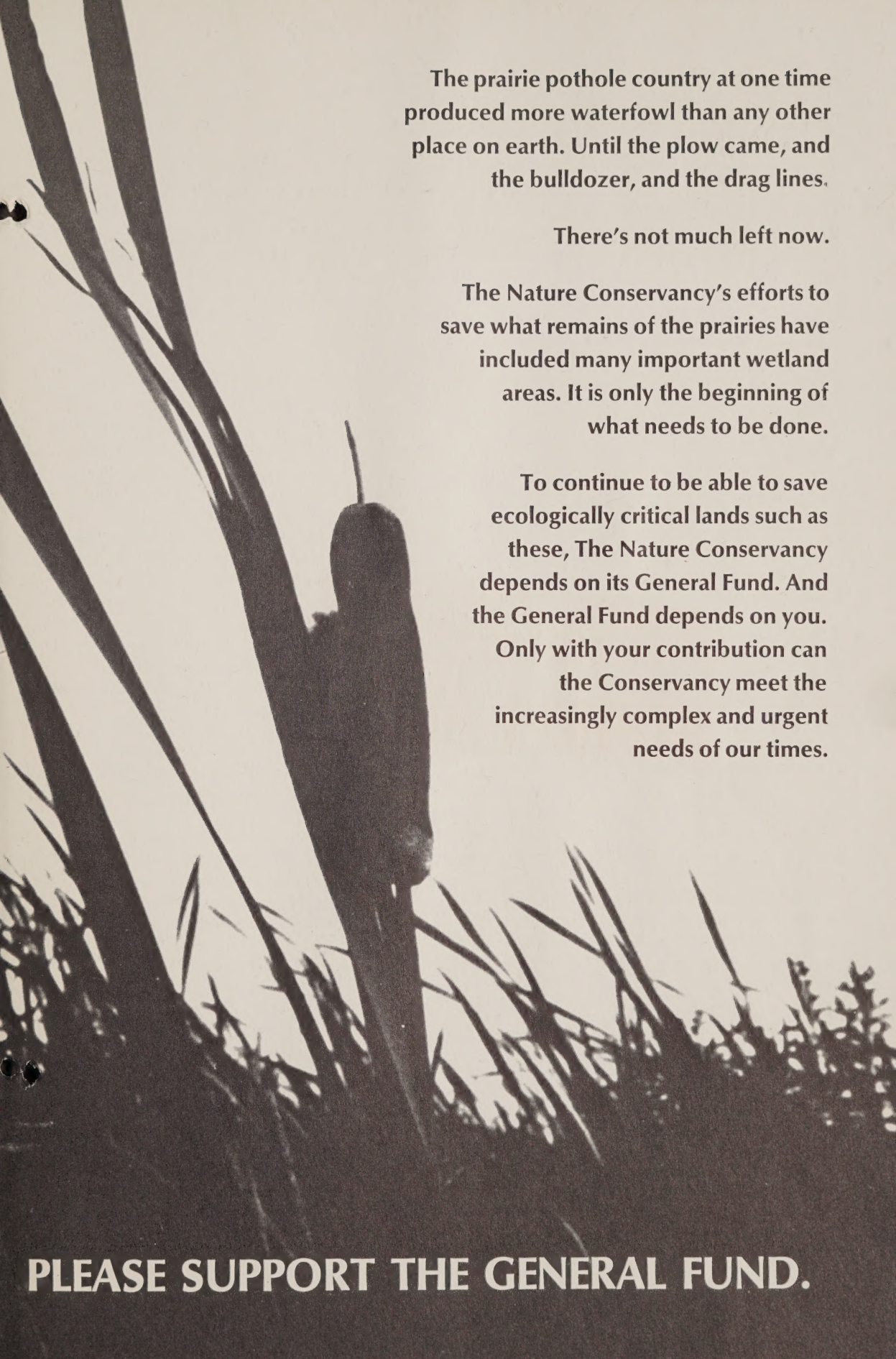
Lignumvitae Key, Michigan Island, the Barrier Islands, Aravaipa Canyon, a winter elk range in Montana, a small marsh in Connecticut—these are not the headline places of America, but they represent a crucial part of the environmental movement, one that sees preservation of the land as a prime goal. All these sites, plus some 135 others totaling 86,000 acres were saved in the last 12 months through the foresight and money of the Nature Conservancy. This is the nonprofit organization whose resources are devoted solely to preserving ecologically valuable land.

In trying to stay a few jumps ahead of the land developers and speculators—admittedly no single group could always be that nimble—The Nature Conservancy has saved 226,000 acres nationwide in the last 20 years. It is happy news, therefore, that the Ford Foundation announced a $600,000 matching grant to this valuable organization this week.

Most of the land the Conservancy buys eventually ends up being available to the public. All its preserves are made available to colleges, universities or scientific groups upon request. Many times, the Conservancy will become involved in a forest, grassland, shoreline, mountain or wetland at the urging of the local or state government. The latter sees a piece of land threatened by development but has little or no on-hand cash to save it. The politicians come to the Conservancy and ask it to buy the land with the idea of selling the property to the government afterward when the money can be raised.

The business of preserving land is complex, demanding a craftiness equal to that used by forces wanting to abuse it. The Nature Conservancy has done its work well and in the 1970s will likely be involved in increasingly vital struggles. Saving old ground often means breaking new ground.

Editorial
The Washington Post
March 15, 1971



The prairie pothole country at one time produced more waterfowl than any other place on earth. Until the plow came, and the bulldozer, and the drag lines.

There's not much left now.

The Nature Conservancy's efforts to save what remains of the prairies have included many important wetland areas. It is only the beginning of what needs to be done.

To continue to be able to save ecologically critical lands such as these, The Nature Conservancy depends on its General Fund. And the General Fund depends on you. Only with your contribution can the Conservancy meet the increasingly complex and urgent needs of our times.

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